Population Health: the new curricular imperative

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Objectives

1. Define population health.
2. Make the case for population health management in improving the nation’s health and the need to teach PAs these skills.
3. Describe the competencies PAs need to improve population health.
4. Describe the use of a competency map in developing population health curricula.
5. Describe and access an array of teaching methods and resources in population health.
Population health

• What is it?
• Why is it important?
• Why should we be teaching this to PA students?
What is population health?
Population health:

“the health outcomes of a group of individuals, including the distribution of such outcomes within the group...

Includes:

• health outcomes
• patterns of health determinants
• policies and interventions that link these two.”

Kindig & Stoddart, 2003
Put another way:

Health is determined by interactions among:

- Individual
- Community or Group
- Physical Environment
- Social Environment
- Political Environment
- Health System

Sub-categories

• Population health improvement
• Primary care practice redesign
• Population-based panel management
• Population medicine (IHI)
Why is population health important?
US spends two-and-a-half times the OECD average

Total health expenditure per capita, public and private, 2010 (or nearest year)

USD PPP

United States, 8,233; Norway, 5,438; Switzerland, 5,270; Netherlands, 5,056; Denmark, 4,786; France, 4,445; Germany, 4,338; Ireland, 3,960; Sweden, 3,758; Australia, 3,718; United Kingdom, 3,433; Iceland, 3,309; Finland, 3,288; Spain, 3,251; Japan, 3,076; Italy, 3,058; Greece, 3,022; Portugal, 2,914; Slovenia, 2,914; Israel, 2,842; Korea, 2,428; Slovak Republic, 2,428; Czech Republic, 2,095; Hungary, 2,035; Poland, 1,984; Estonia, 1,601; Chile, 1,294; Mexico, 1,202; Turkey, 1,135.

1. In the Netherlands, it is not possible to clearly distinguish the public and private share related to investments.
2. Total expenditure excluding investments.

Information on data for Israel: http://dx.doi.org/10.1787/888932315602.

Source: OECD Health Data 2012.

http://www.pbs.org/newshour/rundown/health-costs-how-the-us-compares-with-other-countries/
At 17.6% of GDP in 2010, US health spending is one and a half as much as any other country, and nearly twice the OECD average.

Total health expenditure as a share of GDP, 2010 (or nearest year)

- United States: 12.0%
- France: 11.6%
- Canada: 11.4%
- Switzerland: 11.1%
- Austria: 11.0%
- Portugal: 10.7%
- Belgium: 10.5%
- Greece: 10.2%
- New Zealand: 9.6%
- United Kingdom: 9.6%
- Spain: 9.6%
- Sweden: 9.5%
- OECD: 9.5%
- Japan: 9.5%
- Norway: 9.4%
- Italy: 9.3%
- Iceland: 9.2%
- Brazil: 9.1%
- Slovenia: 9.0%
- Slovak Rep.: 8.9%
- Finland: 8.9%
- Chile: 8.0%
- Israel: 7.9%
- Czech Rep.: 7.9%
- Korea: 7.8%
- Poland: 7.5%
- Estonia: 7.1%
- Mexico: 6.3%
- Turkey: 6.1%

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Source: OECD Health Data 2012.
Years Of Life Lost Before Age 50 By Males

In 17 peer countries from 2006-2008

0 0.2 0.4 0.6 0.8 1 1.2 1.4 1.6

United States
United Kingdom
Finland
Canada
Portugal
Australia
Denmark
Spain
Norway
Austria
Japan
Italy
Netherlands
Sweden
Years Of Life Lost Before Age 50 By Females

In 17 peer countries from 2006-2008

<table>
<thead>
<tr>
<th>Country</th>
<th>Years of Life Lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
<td>0.41</td>
</tr>
<tr>
<td>Italy</td>
<td>0.42</td>
</tr>
<tr>
<td>Norway</td>
<td>0.41</td>
</tr>
<tr>
<td>Japan</td>
<td>0.41</td>
</tr>
<tr>
<td>Spain</td>
<td>0.42</td>
</tr>
<tr>
<td>Finland</td>
<td>0.42</td>
</tr>
<tr>
<td>Austria</td>
<td>0.44</td>
</tr>
<tr>
<td>Germany</td>
<td>0.45</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.45</td>
</tr>
<tr>
<td>Denmark</td>
<td>0.46</td>
</tr>
<tr>
<td>Switzerland</td>
<td>0.49</td>
</tr>
<tr>
<td>France</td>
<td>0.50</td>
</tr>
<tr>
<td>Portugal</td>
<td>0.52</td>
</tr>
<tr>
<td>Australia</td>
<td>0.54</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.56</td>
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<tr>
<td>Canada</td>
<td>0.58</td>
</tr>
<tr>
<td>United States</td>
<td>0.78</td>
</tr>
</tbody>
</table>

Infant Mortality Rates

*In 17 peer countries from 2005-2009*

- Sweden: 2.5
- Japan: 2.6
- Finland: 2.7
- Norway: 3.0
- Portugal: 3.4
- Spain: 3.5
- Italy: 3.6
- Germany: 3.7
- Austria: 3.8
- Denmark: 3.8
- France: 3.8
- Switzerland: 4.2
- Netherlands: 4.2
- Australia: 4.5
- United Kingdom: 4.8
- Canada: 5.2
- United States: 6.7

SOURCE: Data from OECD (2012c).
NOTES: Definitions of overweight and obese vary among countries. Prevalence rates are for the most current year available. SOURCE: OECD (2011b, Figure 2.4.1).
Hospital Admissions - Asthma

In 16 peer countries from 2009

<table>
<thead>
<tr>
<th>Country</th>
<th>Admissions per 100,000 People Age 15 and Older</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portugal</td>
<td>15.1</td>
</tr>
<tr>
<td>Canada</td>
<td>15.7</td>
</tr>
<tr>
<td>Italy</td>
<td>19.2</td>
</tr>
<tr>
<td>Sweden</td>
<td>19.3</td>
</tr>
<tr>
<td>Germany</td>
<td>20.8</td>
</tr>
<tr>
<td>Netherlands</td>
<td>27.5</td>
</tr>
<tr>
<td>Switzerland</td>
<td>30.9</td>
</tr>
<tr>
<td>Denmark</td>
<td>36.5</td>
</tr>
<tr>
<td>France</td>
<td>43.4</td>
</tr>
<tr>
<td>Spain</td>
<td>43.9</td>
</tr>
<tr>
<td>Norway</td>
<td>47.6</td>
</tr>
<tr>
<td>Austria</td>
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</tr>
<tr>
<td>Australia</td>
<td>66.6</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>73.7</td>
</tr>
<tr>
<td>Finland</td>
<td>75.9</td>
</tr>
<tr>
<td>United States</td>
<td>120.6</td>
</tr>
</tbody>
</table>

NOTE: Rates are age-standardized and based on data for 2009 or nearest year.
SOURCE: Data from OECD (2011b, Figure 5.1.1, p. 107).
Health performance

NATIONAL SCORECARD 2011

PREVENTABLE DEATH
DEATHS PER 100,000 PEOPLE
Up to 84,000 fewer people would die prematurely each year from causes amenable to health care if the U.S. achieved the lower mortality rate of the leading three countries.

HEALTH INSURANCE WASTE
PERCENT OF NATIONAL HEALTH EXPENDITURES SPENT ON HEALTH INSURANCE ADMINISTRATION
Reducing health insurance administrative costs to the level of the best-performing countries would save an estimated $114 billion per year.

BETTER CARE
PERCENT OF ADULTS WHO RECEIVED RECOMMENDED SCREENING AND PREVENTIVE CARE
If benchmark levels of performance were achieved, the U.S. could provide preventive care, which can improve health and cut costs, to 66 million more adults.

MEDICARE SAVINGS
MEDICARE HOSPITAL ADMISSIONS FOR AMBULATORY CARE-SENSITIVE CONDITIONS, PER 10,000 BENEFICIARIES
The Medicare program could save more than $4.2 billion a year by reducing hospitalizations for preventable conditions.

Factors that affect health

Tertiary care is rare

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Population Health

Requires a collaborative strategy between leaders in healthcare, politics, charity, education, and business

Robert Wood Johnson Foundation, 2014
Why teach this?

- Most of what affects patients’ health happens outside the clinical setting.
- Clinicians need to understand the issues and provide needed resources and supports.
- We need leaders who will help change the system.
Why teach this?

• Health systems are moving rapidly toward population health
• Excellent clinical skills must be accompanied by these new skills
• PAs need to be leaders in the movement to improve population health
This is already part of PA DNA!
Teaching Population Health
A Competency Map

Public Health
Community Engagement
Critical thinking
Team Skills
Population health: a competency map approach

• Set of competencies that form an organizing framework for curricular planning and training

• Article published 2013 in Academic Medicine

• 4 domains:
  – Public health
  – Community engagement
  – Critical thinking
  – Team skills
Teaching Population Health: A Competency Map Approach to Education

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Abstract

A 2012 Institute of Medicine report is the latest in the growing number of calls to incorporate a population health approach in health professionals’ training. Over the last decade, Duke University, particularly its Department of Community and Family Medicine, has been heavily involved with community partners in Durham, North Carolina, to improve the local community’s health. On the basis of these initiatives, a group of interprofessional faculty began tackling critical thinking, and team skills to improve population health effectively in Durham and elsewhere.

The Department of Community and Family Medicine has spent years in care delivery redesign and curriculum experimentation, design, and evaluation to distinguish the skills trainees and faculty need for population health improvement and to integrate them into educational programs. These clinical planning and training. This framework delineates which learning objectives are appropriate and necessary for each learning level, from novice through expert, across multiple disciplines and domains. The resulting competency map has guided Duke’s efforts to develop, implement, and assess training in population health for learners and faculty. In this article, the authors describe the competency map development process as well as examples of its application and
Competency Levels

• Foundational (basic) awareness
• Applied (intermediate)—skilled participation
• Proficient (advanced)—independent practice
Public Health
Public Health

- Health Promotion
- Surveillance
- Research
- Monitoring
- Analysis
- Outbreaks
- Communication
- Epidemics
- Disease Prevention

PUBLIC HEALTH
**Medicine**

- Focus on individuals
- Diagnosis & treatment
- Clinical interventions
- Well-established profession, standardized education & certification
- Clinical sciences integral; social sciences less emphasized
- Experimental studies with control groups: RCTs.

**Public Health**

- Focus on populations
- Prevention & health promotion
- Environment & human behavior interventions
- Diverse workforce, variable education & certifications
- Social sciences integral; clinical sciences peripheral to education
- Observational studies: case control & cohort studies
Public Health

- **Address the role of socioeconomic, environmental, cultural, and other population-level determinants of health on the health status and health care of individuals and populations.**

- **Foundational**
  - Discuss how these factors influence health status and health care delivery.

- **Applied**
  - Discuss potential strategies for addressing population-level determinants of health.

- **Proficient**
  - Collaborate with stakeholders to design and implement strategies to address population-level determinants of health.
Community Engagement
Think of the community, not just the patients that show up to our offices

Most illness and care occur in the community

Community Engagement

• In order to successfully improve the health of a community, the community must be involved.
• The process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the well-being of those people
• Builds trust and forms partnerships to facilitate change
Community Engagement

Discuss the principles of community engagement and how they contribute to creation of community–academic partnerships.

Foundational
Recognize the principles of CEnR as defined by the Centers for Disease Control and Prevention (CDC).

Applied
Discuss the application of the CEnR principles within a specific community.

Proficient
Apply the principles of community-engaged research to improve health among diverse populations.
Critical Thinking
Using data to improve health
Quality Improvement Skills

Act
- What changes are to be made?
- Next cycle?

Plan
- Objective
- Predictions
- Plan to carry out the cycle (who, what, where, when)
- Plan for data collection

Study
- Analyse data
- Compare results to predictions
- Summarise what was learned

Do
- Carry out the plan
- Document observations
- Record data
<table>
<thead>
<tr>
<th>Level</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assess process and outcome of interventions</td>
<td></td>
</tr>
<tr>
<td>Foundational</td>
<td>Discuss different methods of data collection, both qualitative and quantitative</td>
</tr>
<tr>
<td>Applied</td>
<td>Critique methods and instruments for collecting valid and reliable quantitative and qualitative data</td>
</tr>
<tr>
<td>Proficient</td>
<td>Independently develop a plan for collecting and analyzing new data</td>
</tr>
</tbody>
</table>
Team Skills
Patient-Centered, Team-Based Care

Patient

NP/PA

MD/DO

Community Health Workers and Educators

Residents

Pharmacists

Physical Therapist

Nursing Staff

Social Worker
Team Skills

Lead interprofessional teams in health improvement

Foundationa l Observe and reflect on performance including one’s own

Applied Assess one’s own emotional intelligence and develop plans for ongoing self-improvement

Proficient Lead broad-based teams in developing and implementing community-based health improvement initiatives
Population Health Competencies

- Public Health
- Community Engagement
- Critical Thinking
- Team Leadership
- Advocacy
Teaching methods and resources
Curricular links

• Duke’s Population Health Improvement Teamwork (PHIT) curriculum: http://sites.duke.edu/philteams/

• MedEd Portal iCollaborative: https://www.mededportal.org/icollaborative/ (search population health)
CDC case study: gang violence
“Meeting in a Box”

• Hands on, experiential
• Roles/script for community meeting
• All materials will be available soon
• CDC Legacy Project

http://sites.duke.edu/blogcfm/2015/09/23/duke-physician-assistant-program-students-first-pa-students-in-country-to-test-cdc-project/
INVEST IN YOUR COMMUNITY

4 Considerations to Improve Health & Well-Being for All

WHAT
Know What Affects Health

WHERE
Focus on Areas of Greatest Need

WHO
Collaborate with Others to Maximize Efforts

HOW
Use a Balanced Portfolio of Interventions for Greatest Impact

- Action in one area may produce positive outcomes in another.
- Start by using interventions that work across all four action areas.
- Over time, increase investment in socioeconomic factors for the greatest impact on health and well-being for all.

www.cdc.gov/CHInav FOR TOOLS AND RESOURCES TO IMPROVE YOUR COMMUNITY’S HEALTH AND WELL-BEING
The Practical Playbook

- [https://www.practicalplaybook.org/](https://www.practicalplaybook.org/)
- Text just released
References


